REMARKS

Claims 25-33, 35 and 37-46 are currently pending. Claims 25-27 are currently amended.

Claim Amendments

Claim 25 has been amended to recite that the cross-linking step (b4) is a done by subjecting the wooden elements obtained from step b3) to thermal cross-linking condition of heat only, at a temperature of at least 51ºC, in absence of a thermo-initiator to cross-link said reactive group(s). Support for thermal cross-linking by heat only is found throughout the specification. For example, heat is the only means of cross-linking described in the specification, and the examples, e.g., examples 1 and 2, show embodiments wherein a complete process is performed, wherein heat is the only means of cross-linking. Accordingly, applicants respectfully submit that one skilled in the art can reasonably conclude that the inventors had possession of an invention as claimed with thermal cross-linking by heat only.

Similarly, claim 25 has been amended to recite that the fixing and cross-linking step (bb2) is done by heating the wooden elements obtained from step bb1) in the absence of a thermo-initiator at a temperature of at least 51ºC to fix said wood preservative(s) and to cross-link by heat only said reactive groups. Applicants respectfully submit that one skilled in the art can reasonably conclude that the inventors had possession of an invention as claimed with cross-linking by heat only.

Claims 26 and 27 are amended to remain consistent with claim 25.

Entry, consideration and allowance of the amended claims is respectfully requested.

Rejection under 35 USC § 103(a)

Claims 25-33 and 37-45 stand rejected under 35 USC § 103(a) as unpatentable over Besner (USPN 6,063,883) in view of Miettinen (USPN 3,663,261) and Kelso (USPN 4,303,705). Applicants respectfully traverse this rejection.

The Office concedes that Besner fails to teach cross-linking in the absence of a thermo-initiator (polymerization initiator) and heating at a temperature of at least 51°C. Official Action mailed 29 June 2009, page 4.

The Office relies on Miettinen to allegedly cure the defects of Besner. Miettinen discloses a method for preparing plastic impregnated wood with a liquid resin comprising a mixture of an unsaturated polyester with about 35 to 95% of styrene and/or methyl methacrylate under nitrogen atmosphere. Miettinen, abstract. However, Miettinen teaches that the resin mixture is cured by exposure to radiation. Miettinen, column 2, lines 37-41 and column 2, line 75 to column 3, line 25.

The Office asserts that one skilled in the art would have been motivated to polymerize the elements in Besner by application of gamma radiation or high energy electron radiation according to Miettinen. Official Action mailed 29 June 2009, pages 4-5. Without acquiescing to the propriety of this alleged combination/modification applicants respectfully assert that such a process does not teach or suggest the claimed invention. Claim 25 recites that the cross-linking step (b4) is a done by subjecting the wooden elements obtained from step b3) to thermal cross-linking condition of heat only, at a temperature of at least 51ºC, in absence of a thermo-initiator to cross-link said reactive group(s), and that the fixing and cross-linking step (bb2) is done by heating the wooden elements obtained from step bb1) in the

absence of a thermo-initiator at a temperature of at least 51ºC to fix said wood preservative(s) and to cross-link by heat only said reactive groups.

Therefore, one skilled in the art of polymer chemistry would appreciate, for example, from the teaching of the present disclosure, that the use of high energy radiation as a polymerization initiator is not included in the claimed process.

Furthermore, Miettinen teaches that the polymerization with radiant energy is dependent on the monomers heat of polymerization and their respective radiation dose required.

Applicants submit, again, that the person skilled in the art would know, based on the teaching of Miettinen, that radiant energy is essential for initiating the polymerization in order to carry out to the method for preparing plastic impregnated wood disclosed therein.

There is nothing to be found in Miettinen that would suggest a thermal polymerization reaction in absence of radiant energy. Therefore, the modification of the method of Besner with the method of Miettinen, as proposed by the Office, would not lead one skilled in the art to a cross-linking reaction, that is accomplished in absence of a thermo-initiator and by heat only.

Kelso discloses a process for the treatment of wood in which water-borne wood treatment materials, such as CCA salts, are forced into the wood under pressure and the water-borne wood treatment materials are held within the wood under pressure until they are deposited by precipitation or chemical affixation. Applicants submit that Kelso does not remedy the above-discussed deficiencies of Besner and Miettinen at least because thermal polymerization of cross-linkable polymers for the impregnation of wood article is not disclosed or taught.

Therefore, there is nothing to be found in Besner, Kelso or Miettinen that would suggest a process for the treatment of wooden elements wherein the wooden elements are impregnated with a solution comprising a cross-linkable polymer having reactive groups selected from the group consisting of allyl group, vinyl group, acrylate group and methacrylate group, that will form a cross-linked polymer under thermal cross-linking condition of heat only in absence of thermo-initiator.

The Office rejects claim 32, asserting that the claimed cooling step would be obvious in order to prevent premature polymerization, if the cross-linkable polymer was placed on a hot wooden element. However, the modification asserted by the Office is one in which the polymer is polymerized by radiation, not by heat. Accordingly, the Office's reason for why it would be obvious to include a cooling step is irrelevant. A cooling step is not necessary when the polymerization occurs by radiation, not heat. Therefore, applicants respectfully submit that claim 32 is separately patentable over Besner, Kelso and Miettinen.

In view of the foregoing, Applicants respectfully submit that claim 25 is patentable over Besner in view of Miettinen and Kelso, and thus the rejection should be withdrawn. Additionally, claims 26-33, 35 and 38-46 depend from claim 25, directly or indirectly, and thus are patentable over the cited references at least by virtue of their dependency and for the above additional reasons.

Conclusion

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is earnestly solicited. If

there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at his earliest convenience.

Respectfully submitted,

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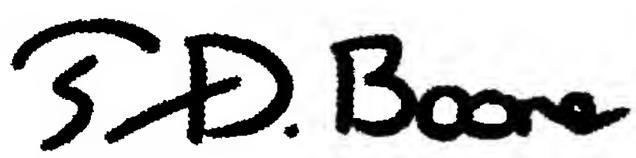
Date: December 24, 2009 By: 

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